

1 **ABSTRACT**

2

3 **'Actuating Mechanism'**

(Figure 1)

4

5 An actuating mechanism for use in a tool such as a plug
6 used in oil and gas wells. The mechanism being operable
7 under pressure in the well bore to set the plug in a
8 first natural closed state for a pressure under a
9 predetermined pressure range; a second closed state
10 wherein the plug is locked closed regardless of the
11 pressure; and a third open state by increasing the
12 pressure to the predetermined pressure range and holding
13 the pressure in the range for a predetermined time.
14 Electronic and mechanical, dual piston, actuating
15 mechanisms are described as is a method of controlling
16 fluid flow in a well bore using the plug and performing a
17 pressure test against the plug.

18